Education 486-4 Special Topics
Microcomputers in Education

Spring, 1985
Thursday, 4:30-8:30

Instructor: Wolfgang Rothen

CANCELLED

The initial focus of the course will provide a familiarity with the microcomputer as an instructional tool. We will examine the technical terms that have grown to talk about microcomputer technology, and these concepts will be related to instructional applications that are illustrated by demonstrations and laboratory exercises. Lectures will emphasize the historical context out of which microcomputer technology arose and the roles potentially filled by computer-based technology.

Midway, our attention shifts toward evaluation of microcomputer software. Topics singled out include: The languages in which instructional programs are written, instructional strategies, and models of the instructional process. We focus on means for evaluating software in light of these models and the contexts in which classroom learning occurs.

The final portion of the course will deal with recent applications of computer technology in education. Our emphasis will be on advances in instructional theory, cognitive science, and artificial intelligence.

Outline of Topics:

1. The context of microcomputers in classrooms.
2. Parts of microcomputers and their operation.
3. Models of the instructional process.
4. Instructional programming languages, software, & their evaluation.
5. Classroom computers and cognitive science.

Course activities will consist of lectures, demonstrations, readings, & labs.

Evaluation:

1. Completion of laboratory exercises.
2. A short (2-3 page) review paper that identifies an area of microcomputer application and reviews implementations within that curriculm area.
3. A design document (no longer than 15 pages) that proposes an hypothetical piece of software, explains why it is needed, reviews its relationship to existing software and instructional theory, and explains the instructional features of the proposed software.
4. Short tests related to lectures and readings.

Required Textbook:

Alessi, S. M., & Trollip, S. R. Computer-based instruction: Methods and development. Prentice-Hall, Inc., 1985.

Prerequisites:

Education 401/402 or equivalent.